

**IN THE MATTER** of the Resource Management Act  
1991

**AND**

**IN THE MATTER** of an application to Kapiti Coast  
District Council for non-complying  
resource consent for a proposed 53 lot  
subdivision<sup>1</sup> (including earthworks and  
infrastructure) at Otaihanga, Kapiti  
Coast.

**STATEMENT OF EVIDENCE OF CAMERON ANDREW WYLIE ON BEHALF  
OF THE APPLICANT**

**1. INTRODUCTION**

**Qualifications**

- 1.1 My full name is Cameron Andrew Wylie.
- 1.2 My qualifications are Master of Science (Geology) from University of Auckland (1989), and I am a Chartered Professional Engineer (CPEng) practicing in the Geotechnical Engineering. I am a Chartered Member of Engineering New Zealand (CMIPENZ) and member of the NZ Geotechnical Society.

**Experience**

- 1.3 I am employed by Resource Development Consultants Limited ("RDCL") as the Managing Director. I am also the Principal Geotechnical Engineer of that firm where I have been involved in a large number of commercial and residential geotechnical projects since 2007.
- 1.4 Prior to RDCL my most recent appointments include Managing Director of leading international consultancy, Golder Associates (NZ) Ltd (2001-2006) and Country Manager, Coffey Philippines Inc (1997-2001). In both cases I was responsible for delivery of geotechnical engineering of large mining

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<sup>1</sup> The original application was for a 56 lot subdivision – 49 residential lots and 7 lots infrastructure

1.5 I have been involved in geotechnical engineering for 34 years.

**Background**

1.6 I have been involved in the following aspects of the proposal.

1.7 Specifically, this has involved:

- (a) Undertaking geotechnical investigations for the site;
- (b) RDCL undertook geotechnical investigations for the site set out in the report and including: Site walkover and Engineering Geological Mapping; 17 no. test pits; 16 no. Dynamic Cone Penetrometer (DCP) tests and 11 no. Cone Penetrometer Tests (CPT).
- (c) Co-Authoring the Report on Geotechnical Investigation for the Mansell Farm Subdivision in Otaihanga Road dated 16<sup>th</sup> August 2019 with my colleagues Rachel Dellany and Jethro Neeson setting out the Geotechnical assessment for the proposal.
- (d) My colleague Mr Neeson was the day to day contact person for this proposal he attended a number of site visits and team meetings, including discussions with experts from Cuttriss and Awa Environmental also working on the project.
- (e) Assisted the Applicant to respond to Further information Requests by Council dated 8 April 2022. This included updating stability analyses to include revised ground accelerations developed as part of the NZ seismic hazard model and as advised by MBIE (2021) and reissuing an updated report dated 10 March 2022.
- (f) Assisting the Applicants planner Mr Hansen with advice on and input to development of suitable conditions.

1.8 I confirm that I have read the briefs of Mr Martell, Mr Taylor and Mr Hansen to which I will cross-refer [If applicable]. However, my evidence will focus on my area of expertise.

## **2. CODE OF CONDUCT**

- 2.1 Although not necessary in respect of council hearings, I can confirm I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the hearing committee. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

## **3. SCOPE AND STRUCTURE OF EVIDENCE**

- 3.1 I have structured my evidence as follows:
- (a) Summary of my report and key conclusions as to effects
  - (b) Response to Council's Requests for Further Information (and revised proposal)
  - (c) Response to matters raised by submitters
  - (d) Response to Officers' Report 42A and peer review report (relevant to geotech and Landscape)
  - (e) Suggested Conditions
  - (f) Conclusion.

## **4. SUMMARY OF REPORT ON GEOTECHNICAL INVESTIGATIONS**

- (a) Geotechnical assessment and testing was undertaken by RDCL to assess the site for liquefaction risk and determine the geotechnical suitability of the site for residential use.
- (b) These included Site walkover and Engineering Geological Mapping; 17 no. test pits; 16 no. Dynamic Cone Penetrometer (DCP) tests and 11 no. Cone Penetrometer Tests (CPT), analytical assessment of liquefaction potential based on site test results and analytical assessment of slope stability to guide the design of the subdivision.

- (c) The results of the Geotechnical assessment indicate that there is little to no risk of liquefaction for this site. Based on the results of this investigation, I consider the proposed development is suitable from a geotechnical perspective, and made the following recommendations for foundations and setbacks from slopes<sup>2</sup>:
- (d) I recommend that NZS3604:2011 shallow foundations are considered suitable for the overall site. I note that the building platforms will require testing to confirm site requirements in accordance with NZS3604:2011;<sup>3</sup> and
- (e) Setback from slopes, I noted that during site visits RDCL had observed evidence of shallow slope instability localised to a single dune. I recommended a nominal setback of 5.0m from slopes >15 degrees is recommended to protect against the potential for shallow slope instability.<sup>4</sup>

## 5. KEY FINDINGS

- 5.1 Key findings of the report are:
- 5.2 The generalised soil profile includes Silty/sandy TOPSOIL to ~0.25m bgl; overlying Loose to dense silty SAND to 16m bgl.
- 5.3 Ultimate Bearing Capacity of 300kPa is generally available between 0.3m and 1.7m below existing ground level.
- 5.4 Liquefaction assessment results indicate little to no risk of liquefaction hazards across the site, including free field settlement and lateral spreading.
- 5.5 Based on the results of our investigation, I consider the proposed development is suitable from a geotechnical perspective following:
- 5.6 Building restriction zones are established within 5.0m from the top and bottom of natural slopes;
- 5.7 NZS3604:2011 foundations are considered appropriate

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<sup>2</sup> Geotechnical Investigation Report para 5.1

<sup>3</sup> Ibid para 5.2.

<sup>4</sup> Ibid at para 5.3

- 5.8 I understand these findings and recommendations have been carried through the AEE that accompanied the resource consent application and where appropriate draft conditions being proposed by Mr Hansen.

#### **REVISED APPLICATION.**

- 5.9 Since I completed my assessment report the Applicant has made a number of revisions to the proposal mainly relating to layout of lots and reduction of lot numbers by 3 lots and slight change in alignment of the shared path, and minor changes to the extent of earthworks closest to lot 200 by Otiahanga Road. I confirm that I have reviewed this material and it does not change my assessment of the geotechnical effects of the development. The Geotechnical effects of the proposal remain no more than minor.

#### **6. RESPONSE TO SUBMITTERS**

- 6.1 There are no geotechnical concerns raised by submitters.

#### **6.2 RESPONSE TO PEER REVIEW REPORT**

- 6.3 The Officer notes that due to concern over the size of the earthworks proposed a peer review of RDCL's geotechnical assessment was commissioned by Council from Miyamoto.
- 6.4 I note (and the Officer agrees) that overall Miyamoto were in general agreement with the RDCL report and findings that the site was suitable for development based on the proposed scheme plan.
- 6.5 The peer reviewer asked a number of questions and sought further information and I assisted with the preparation of the Applicants response and undertook the requested checks to confirm liquefaction potential under the changed topography, and stability analyses of their proposed slopes, specifically to confirm the set-backs from crest of slope.
- 6.6 I understand that the Council and Miyamoto were satisfied with those responses and as noted in the Officers Report<sup>5</sup> Miyamoto were in agreement with the findings of my report.

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<sup>5</sup> Officers Report para 155.

## 6.7 **RESPONSE TO OFFICERS REPORT**

6.8 At para 144, the Officer cites RDCL's conclusion that the site 'was at little risk of liquefaction hazards across the site, including free filed settlement and lateral spreading',<sup>6</sup>. No issues of concern were raised with my report and my conclusions and recommendations have been accepted by the Reporting Officer and peer reviewer.

### **CONDITIONS**

6.9 The Officers Report raised a handful of matters within my area of expertise in respect of the wording of recommended conditions.

6.10 The Officer has proposed a reworded condition 16 and 17 set out in full below:

*'16. the unsuitable fill material areas shown on the Final Approved Plans detailed in condition 1, shall be identified in the Land Transfer Plan using normal surveying methods.*

*17. With respect to Lots 11,21,and 30 the following activities are prohibited within the areas identified in condition 16 above.*

- *The erection of any building or structure.*

6.11 This is proposed as a replacement to condition 42 proposed by the Applicant [set out at para 147 of the Officers report]. I support this amendment.

6.12 This includes an update/ amendment to the wording of Applicants condition E3 to reflect the updated RDCL report and RFI response submitted on 8 April 2022, in which I concluded that in my opinion a 5m setback of the buildings from slopes greater than 15degrees was needed. I support this amendment.

6.13 I have reviewed the other re-drafted condition proposed by Council these generally remain in the form proposed by the Applicant, uplifted from my report. I have the following comments:

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<sup>6</sup> Ibid page 2.

- (a) I support the inclusion of conditions 37 in respect of the need for a geotechnical completion report and certification from a Geo- professional.
- (b) I support condition 38 which includes my recommendation for foundation designs for lots 1-46 be undertaken by a suitably qualified person.

6.14 These conditions are in line with the recommendations I make in the RDCL report.

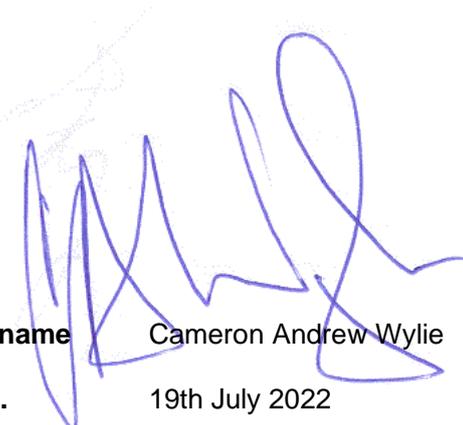
## 9. CONCLUSION

6.15 Geotechnical investigation and assessment confirms the suitability of the site for residential development with no significant geotechnical risk or mitigation works required for geotechnical aspects.

6.16 The effects from a geotechnical perspective are considered less than minor.

6.17 The proposed conditions as they relate to geotechnical issues are considered suitable for the development.

6.18 I believe that the consent for the development should be granted from a geotechnical perspective.



**Full name** Cameron Andrew Wylie

**Date.** 19th July 2022